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## ABSTRACT

In this paper, Piagetian stages are discussed in relation to the internalization of key vocabulary words by children. Research studies that indicate a parallel development using Sylvia Ashton-Warner's idea of key vocabulary of children are briefly discussed. The author agrees that three studies do not completely prove a hypothesis, however they tend to support the proposition that the concept of children and their key words has its origins in the comparable quality of conservation as explored by Piaget. The author indicates that if Piaget is right in that children move through sensorimotor, preoperational stages--differing in ages but not in sequence--to that concrete operational stage of thorough understanding, then a similar kind of development must take place as children proceed through the years to the operation of learning to read and write. (WR)

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KEYWORDS AND PIAGETIAN CONCEPTS: A SUGGESTION

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It is often said that scientific discoveries ought

to begin with the report "One day while puttering around the laboratory, a funny thing happened." Ever since I read Sylvia Ashton-Warner's Spinster and Teacher, I have been trying to explain some of the observed phenomena while demonstrating her "Key Vocabulary" with children. The most puzzling thing, to me, aside from the fact that no major figure in the field of reading thought much of her idea, was the intense possessiveness of each child over his own words. Why, I wondered, did they have such a fascination? Why was it so difficult to get a child to throw away those words he could not remember, even though it was obvious that this action produced far more vital, powerful words in the long run?

Recently, I was struck with the similarity of behavior of children with their key words, and other children who clearly were in the concrete operational stage doing the classic Piagetian experiments. Might there be a relationship between Key Words and Conservation? May I present some of my thinking that this, as a hypothesis, might make some sense.

For example, a child demonstrating his understanding of conservation with water, when the liquid from one glass

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was poured into a taller glass says:<sup>1</sup>

It's still the same, because, I saw before in the other glass that it was the same--

But how can it be the same?

You empty it and put it back in the others!

This is an example that could be replicated a thousand times. The child that has reached the stage of conservation, has internalized its meaning. He cannot be fooled by changing the size and shape of the glasses.

Let me compare for you another child that has been working to give one of my undergraduate students (a completely inexperienced teacher) some key words. Note that the inexperience of the observer does not obscure how the child feels about words of such internal importance.

A week later I returned to the classroom, eliciting the "key" words. This was an enlightening experience for both of us. It was serious learning on her part, and excitement, for her key words were her reality, and Indian it was. As she had gone to visit her grandmother that weekend her words were images of this environment (she often goes to the reservation apparently) "mountains," "sky," "grass," "wind," "night." The words were so real to her, her world, and as a result of her excitement I suggested she compose a story about her words. I wrote and it was a beautiful composition. . . . She wanted to take it home after our session . . . . (*Emphasis added.*)

Let us take another example of a child who shows understanding of another Piagetian task, that of seriation

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<sup>1</sup>Molly Brearley and Elizabeth Hitchfield, A Guide to Reading Piaget (New York City: Schocken, 1966), p. 9.

and correspondence. The child was to arrange a series of sticks and dolls in pairs from large to small. Of course, the pre-operational child could not complete the task, no matter how much coaching he received. Another more mature child talked as he maneuvered the objects.<sup>1</sup>

Are the dolls alike?

Oh, no, they get smaller and smaller, and that's the smallest.

Do you know which stick belongs to which doll? How can we find out?

We must arrange them smaller, smaller, smaller (he did so).

Clearly this child has achieved conservation, and can reverse the order of the sticks and dolls. The term reversibility is used to indicate such inner understanding. When the child achieves such a state of understanding, Piaget considers him to have achieved equilibration.

Let us turn again to children as described by Sylvia Ashton-Warner in her book, Teacher.<sup>2</sup> Note again this evidence of equilibration with words:

"Mohi," I ask a new five, an undisciplined Maori, "What word do you want?"

"Jet!"

I smile and write it on a strong little card and give it to him.

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<sup>1</sup>Ibid., p. 18.

<sup>2</sup>Simon and Schuster (New York City, 1963), p. 35ff.

... "What do you want, Seven?" Seven is a violent Maori.

"Bomb! Bomb! I want bomb!"

So Seven gets his word "bomb" and challenges anyone to take it from him.

"Tigers" is usually a word from the European children but here is a Maori with it. So I give him "tigers" and never have I to repeat this word to him, and in the morning the little card shows the dirt and disrepair of passionate usage . . . .

Out press these words, grouping themselves in their own wild order. All boys wanting words of locomotion, aeroplane, tractor, jet, and the girls words of domesticity, house, Mummy, doll. Then the fear words, ghost, tiger, skellington, alligator, bulldog, wild piggy, police. The sex words, kiss, love, touch, haka. The key words carrying their own illustrations in the mind, vivid, and powerful pictures which none of us could possibly draw for them--since in the first place we can't see them and in the second because they are so alive with an organic life that the external pictorial representation of them is beyond the frontier of possibility . . .

The tendency is for them to gather force once they are said . . . (emphasis added.)

For a final contrast between these two operations, linguistic and mathematical, may I again quote a child who is drawing how water would look no matter how a bottle (with water in it) would be tilted. He says, " . . . because water cannot slant; it's always straight (i.e., horizontal) because water must always be straight."<sup>1</sup>

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<sup>1</sup>Brearley and Hitchfield, op. cit., p. 96.

If you would grant that I have shown that key words, properly elicited, are analogous to conservation in Piagetian terms, then I could say that each key word is a word that is conserved. That is, it is internalized. It does not need to be taught. It is understood, perhaps not in its formal definition, but as one child said, "I know all about it." His word was "whale." He had never seen a whale. His knowledge was a product of sheer understanding of some source, and vicarious source it had to be, of what a whale was. When this boy was asked why he liked that word best on that day, he replied, "Because it is a big, BIG fish!" <sup>He was</sup> only six.

If key words are the only ones that can be said to be conserved, then they are the only ones that need not be drilled upon or imposed. As to the rest of the words that children use when talking they, of course, would be of lesser importance in impact, even though far more numerous. These would be service words, and other categories in which the child is not interested.

Piaget advocates have demonstrated, (May I recommend the writings of Millie Almy and Richard W. Copeland as remarkably lucid?) that mathematical operations are not internalized, not understood, not usable and certainly not teachable to the child until he has reached that state of Nirvana where, plunk! equilibration, security, knowledge comes about.

There are at least three research studies that indicate a parallel development using Sylvia Ashton-Warner's innovative idea. I refer to Athol B. Packer's work with Follow-Thru children, which showed that such words were not of the stuff of the basal readers.<sup>1</sup> Also Eleanor Barnette's work at the University of Arizona, showing the significantly improved ego concept of children on a Key Vocabulary program, as well as improved attitudes toward reading.<sup>2</sup> In addition, Raymond J. Duquette, at Arizona State University demonstrated that children under a Key Vocabulary program performed better, significant at the 0.01 level of confidence, in word meaning, paragraph meaning, and word study skills in reading as measured by the Stanford Achievement Test; and in writing in the number of (1) running words, (2) words spelled correctly, (3) different words, and (4) polysyllabic words.<sup>3</sup>

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<sup>1</sup>Athol B. Packer, "Sylvia Ashton-Warner's Key Vocabulary for the Disadvantaged," Reading Teacher, International Reading Association, Vol. 23, No. 6, pp. 559 ff.

<sup>2</sup>Eleanor A. Barnette, "The Effects of A Specific Individualized Activity on the Attitudes Toward Reading of First and Second Grade" (unpublished E.D.D. dissertation, University of Arizona, 1970).

<sup>3</sup>Raymond J. Duquette, "An Experimental Study Comparing the Effects of A Specific Program of Sight Vocabulary Upon Reading and Writing Achievement of Selected First and Second Grade Children" (unpublished Ph.D. dissertation, Arizona State University, 1970).

While obviously three studies do not make a hypothesis completely, incontrovertably proven, nevertheless, these are significant straws in the wind that tend to support my proposition that the phenomenal quality of children clutching their key words to their bosoms, has its origins in the comparable quality of conservation as explored by Piaget.

In closing I must say that if Piaget is right in that children move through sensori-motor, pre-operational stages, differing in ages but not in sequence, to that concrete operational stage of thorough going understanding, then a similar kind of development MUST take place as children proceed through the years to the operation of learning to read and write.

If Piaget is critical of attempts to impose <sup>mathematical</sup> learning in an effort to speed it up, then analogous attempts to impose learning to speed up reading should also be criticized as fruitless. Not only do the studies above so suggest, but other numerous studies of self-selection in reading,<sup>1</sup> and those of the 27 studies of beginning reading,<sup>2</sup> are not in opposition.

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<sup>1</sup>Sam Duker, Individualized Reading (Metuchen, New Jersey: Scarecrow Press, 1969).

<sup>2</sup>Russell G. Stauffer, editor, The First Grade Reading Studies: Findings of Individual Investigations (Newark, Delaware: International Reading Association, 1967).

Inasmuch as the majority of teachers in America, and the world, for that matter, do not use children's own language, let alone their dialects, in developing the skills of literacy; inasmuch as the majority of programs of beginning reading instruction impose language other than the children's own, a comparison of a linguistic operation with the most powerful and vital of children's language, and a mathematical operation on the most demonstrable of developmental stages, shows how inadequate, how non-developmental are our procedures to develop the skills of literacy.